



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,071	07/14/2003	Derek Raybould	H0003569	1262
7590 04/07/2006			EXAMINER	
Honeywell International, Inc. Law Dept. AB2 P.O. Box 2245 Morristown, NJ 07962-9806			JOHNSON, JONATHAN J	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/621,071	Applicant(s) RAYBOULD ET AL.	
	Examiner Jonathan Johnson	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 14 July 2003.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-44 is/are pending in the application.

4a) Of the above claim(s) 1-17 and 38-44 is/are withdrawn from consideration.

5) ☒ Claim(s) 30-37 is/are allowed.

6) ☒ Claim(s) 18-29 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☒ Claim(s) 1-44 are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____.
---	--

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-17 are drawn to a braze material, classified in class 148, subclass various.
- II. Claims 18-44 are drawn to a method of brazing, classified in class 228, subclass 245.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group I and Group II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used in semiconductor manufacturing.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

**IF APPLICANT ELECTS GROUP II, THEN APPLICANT MUST ADDITIONALLY
ELECT ONE OF THE FOLLOWING:**

Art Unit: 1725

This application contains claims directed to the following patentably distinct species of the claimed invention:

Ila. Claims 18-37 are drawn to a method of bonding at a temperature below the braze temperature.

Ilb. Claims 38-44 are drawn to another brazing embodiment.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Oral Caglar on 11-9-05 a provisional election was made without traverse to prosecute the invention of Group IIa, claims 18-37. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-17 and 38-44 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 25 is indefinite since the amount of Ni is broader than that required in claim 18.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1725

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-29 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,149,051

(Vollmer). Vollmer teaches coating a braze material onto a base material, said braze material being a mixture of Ti, Cu, Ni powders comprising 25-80% by weight Ti, 12-24% by weight Ni, and 12-22%Cu, wherein the Cu/Ni is between 0.5 and 1.0 (col. 5, ll. 28 to col. 6, l. 45); placing said base material with said braze material in a vacuum furnace (see examples and col. 8, ll. 6-26); heating said braze material and said base material for a given braze time to achieve thermal stability between said braze material and said base material, said heating being up to a temperature that is not more than a braze temperature of said braze material (co. 6, l. 46 to col. 7, l. 23 and figure 1-3 and examples); and forming a braze joint between said braze material and said base material (figure 3, col. 7, ll. 24-53 and examples); wherein said braze material is further comprised of a precious metal (PM), the (Cu+PM)/Ni ratio is between 0.5 and 1.0, and there is 54-76% by weight Ti (col. 5, ll. 30-45); wherein said braze material is further comprised of M, wherein M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd, Ge or any combinations thereof (col. 5, ll. 30-40); wherein said braze material is comprised of 30-80 wt %Ti, 10-30 wt % Ni, 10-30% Cu, and 1-20 wt % M (col. 5, ll. 35-45); wherein said braze material is further comprised of a precious metal (PM) and Zr, said Ti being 42-76 wt %, said Ni being 12-24 wt %, said Cu+PM being 12-22 wt %, said Zr being 0.5-12 wt %, and the Cu/Ni ratio is between 0.75 and 1.0 (col. 5, ll. 35-45); wherein said braze material is further comprised of 0.5-12% by wt. Zr (col. 5, ll. 35-45); wherein said braze material is further comprised of (a) wt % Ti, (b) wt % Ni, (c) wt % Cu, (d) wt % Al, (d) wt % Si, (d) wt % Nb, (d) wt % Mo, (d) wt % Co and (d) wt % Fe, wherein (a):(b):(c) are in the ratio of 11:5:4 and (d) is

Art Unit: 1725

between 0 to 10 (col. 5, ll. 30-40); wherein said braze material is further comprised of PM and M powders and said Ti being 25-80 wt %, said Ni being 10-30 wt %, said Cu+PM being 10-30 wt %, and 1-20 wt % M (col. 5, ll. 35-50); wherein said M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd, Ge or any combinations thereof (col. 5, ll. 30-50); wherein said braze material is further comprised of PM, Zr and M powders, said Ti being 25-70 wt %, said Ni being 10-30 wt %, said Cu+PM being 10-30 wt %, said Zr being 0.5-12 wt %, said M being 1-20 wt %, and the (Cu+PM)/Ni ratio is between 0.8 and 1.0 (col. 5, ll. 30-50); wherein M is selected from the group consisting of Fe, V, Cr, Co, Mo, Nb, Mn, Si, Sn, Al, B, Gd and Ge or any combinations thereof (col. 5, ll. 30-50); wherein said braze material is further comprised of Ti, Ni, Cu, Al, Si, Nb, Mo, Co and Fe powders (col. 5, ll. 30-50).

Claim Allowance

Claims 30-37 are allowed.

Conclusion

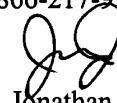
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177.

The examiner can normally be reached on M-Th 7AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Johnson
Primary Examiner
Art Unit 1725

jj